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6. AUTHOR(S)

DR MARK L. WITTEN

7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES)

Dept of Pediatric & Physiology
University of Arizona
1501 N. Campbell Ave
Tucson AZ 85724

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AFOSR/NL
110 Duncan Ave Suite B115
Bolling AFB DC 20332-8080

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13. ABSTRACT (Maximum 200 words)

Allison M Hays and Brian tollinger were the students supported by the first three-year AASERT Training grant from the U.S. Air Force Office of Scientific Research. Allison will complete here Master's degree graduate program in the Department of exercise and Sports Sciences at the University of Arizona. She has applied for the Ph.D. program in Physiological Sciences at the University of Arizona. Brian has worked in my laboratory for the past four years. Brian is a graduate student in the College of Pharmacy at the University of Arizona and will complete his Pharm.D. in May of 1997. Brian has great potential as a research scientist and I am trying to convince Brian to spend one additional year at the University of Arizona and complete a Ph.D. in Pharmaceutical Sciences as well as his Pharm.D. degree.

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THIRD YEAR SUMMARY FOR AASERT GRANT

ENTITLED

RESEARCH TRAINING OF THE EFFECTS OF TOXIC SUBSTANCES ON THE LUNGS

Mark L. Witten, Ph.D. Principal Investigator

Department of Pediatrics

Arizona Health Sciences Center

Tucson, Arizona

April 9, 1996

Submitted to-
Life and Environmental Sciences Directorate
U.S. Air Force Office of Scientific Research
Bolling Air Force Base, DC 20332-6448

Overall Progress of the Grant

Allison M. Hays and Brian Tollinger are the students supported by the third year of the AASERT Training grant. Allison has completed the first year of a graduate program in the Department of Exercise and Sports Sciences at the University of Arizona. Brian has worked in my laboratory for the past three years. Brian is a graduate student in the College of Pharmacy at the University of Arizona.

Their work on the AASERT Training grant has resulted in the following peer-reviewed publications on the Air Force Office of Scientific Research grant (publications 1-6) and our U.S. Army Medical Research & Materiel Command grant concerning the effects of an acute diesel smoke insult on the lungs (publications 7-9).

(1) Pfaff JK, Parton K, Lantz RC, Chen H, Hays AM, Witten ML: Inhalation exposure to JP-8 jet fuel alters pulmonary function and Substance P levels in Fischer 344 rats. JOURNAL OF APPLIED TOXICOLOGY, 1995, 15:249-256.

(2) Hays AM, Parliman G, Pfaff JK, Lantz RC, Tinajero J, Tollinger B, Hall J, Witten ML: Changes in lung permeability correlate with lung histology in a chronic exposure model. TOXICOLOGY & INDUSTRIAL HEALTH, 1995, 11:325-336.

(3) Robledo RF, Breceda V, Tollinger BJ, Wang S, Lantz RC, Witten ML: JP-8 jet fuel exposure causes lung injury in enzyme-deficient C57BL6 mice compared to their parent strain. INTERNATIONAL TOXICOLOGIST, 1995, 19-P-2.

(4) Pfaff JK, Tollinger B, Lantz RC, Chen H, Hays AM, Witten ML: Neutral endopeptidase (NEP) and its role in pathologic pulmonary change with inhalation exposure to JP-8 jet fuel. TOXICOLOGY & INDUSTRIAL HEALTH (in press).

(5) Robledo RF, Breceda V, Tollinger BJ, Wang S, Lantz RC, Leeman SE, Witten ML: Substance P attenuates lung injury caused by chronic hydrocarbon exposure. PROCEEDINGS OF THE TACHYKININS '95 INTERNATIONAL MEETING, Florence, Italy, October 16-18, pp. 190, 1995.

(6) Robledo RF, Breceda V, Lantz RC, Wang S, Witten ML: Substance P antagonist, CP-96,345, potentiates JP-8 jet fuel induced lung injury in C57BL6 mice. THE TOXICOLOGIST, 30:98, 1996.

(7) Wang S, Lantz RC, Chen GJ, Breceda V, Hays AM, Parliman G, Tollinger B, Robledo RF, Tinajero J, Witten ML: The prophylatic effects of U75412E-pretreatment in a smoke-induced lung injury model. PHARMACOLOGY & TOXICOLOGY (Accepted pending revisions).

(8) Tinajero J, Robledo RF, Lantz RC, Sobonya RE, Quan SF, Lemen RJ, Tollinger BJ, Witten ML: Fractal analysis of lung alveoli during the acute phase vs. repair phase of an adenoviral infection in canines. RESPIRATION (submitted).

(9) Wang S, Lantz RC, Chen GJ, Breceda V, Rider ED, Hays AM, Robledo RF, Witten ML: A 21-aminosteroid attenuates superoxide production of alveolar macrophages in the rescue mode after smoke-induced lung injury. PHARMACOLOGICAL RESEARCH (submitted).

Summary of First Three-Year AASERT Grant-

Allison M. Hays and Brian Tollinger were the students supported by the first three-year AASERT Training grant from the U.S. Air Force Office of Scientific Research. Allison will complete her Master's degree graduate program in the Department of Exercise and Sports Sciences at the University of Arizona. She has applied for the Ph.D. program in Physiological Sciences at the University of Arizona. Brian has worked in my laboratory for the past four years. Brian is a graduate student in the College of Pharmacy at the University of Arizona and will complete his Pharm.D. in May of 1997. Brian has great potential as a research scientist and I am trying to convince Brian to spend one additional year at the University of Arizona and complete a Ph.D. in Pharmaceutical Sciences as well as his Pharm.D. degree.